

Unitary Parking Barriers Buyer's Guide

Application Note AN19

This application note is a guide to various types of barriers and posts that are used to restrict access to individual parking spaces (unitary barriers).

1. Purpose

A unitary barrier is installed in each parking space in a facility. When the barrier is up, access to the space is denied. When the barrier is lowered, a car can enter and park in the space.

2. Types

Unitary barriers can be manual or powered.

Manual barriers are lifted and dropped manually by the user. They have a mechanical lock that prevents unauthorized lowering of the barrier (and in some cases, the lock prevents unauthorized lifting of the barrier).

Powered barriers use electric motors, hydraulic pistons or springs to raise the barrier. Powered barriers can be controlled by wired switches and/or wireless remote control devices. The power source can be external wired to the barrier, internal batteries, internally stored energy from car weight, or solar-charged batteries. In all variations of powered barriers, the user does not need to make physical contact with the barrier to raise or lower the barrier.

3. Features of Manual Barriers

When evaluating manual barriers, the following features should be considered:

- A. **Ease of use:** The user needs to lower and raise the barrier manually. How heavy is the barrier? Is the barrier foot operated? How easy is it to unlock and lock the barrier?
- B. **Type of Lock:** Low-end mechanical barriers are not provided with locks. Instead, there are holes where a padlock can be inserted. These barriers are the least desirable arrangement, because the user needs to use both hands to hold the padlock to lock or unlock it, then remove the lock, bring the barrier down and secure the lock at ground (and dirt) level. Unlocking to raise the barrier is likewise a multi-step procedure. Locks can get lost or caked in mud.
- C. **Self Locking:** Barriers with built-in locks, while



far better than padlocks, should self-lock when the barrier is raised. This eliminates the need to use the key to lock the barrier when raised, saving time and the need to fish for the key.

D. Intimidation Factor:

Unless the barrier looks intimidating, some drivers will try and force it down to gain access to the parking space.

The barrier should not look like a toy.



E. Shape of Barrier:

Barriers can be simple posts, warning signs, inverted horseshoe design, a chain or a combination of shapes. Posts are usually the lightest to lift, but they block a narrower



path (about 10 feet or 3 meters). Parking bays are rarely wider than 9 feet.

F. Dimensions:

The height of the barrier is one of the key issues to consider. The higher the barrier the more visible it is, especially as the car approaches the space. European standards require a minimum height of 42cm (16.5").

G. Damage Resistance:

Any stationary barrier will sooner or later be bumped by cars in a parking lot — whether by accident or intentionally (in the case of barriers). Surviving such a bumping eliminates service calls and the possibility that the parking space becomes unusable because the barrier is stuck midway down. As a rule, barriers that are provided with a mechanism to yield under excessive force will fare better than rigid barriers.

H. Max Resisting Force:

If the barrier is not provided with damage resistance (see above), then it should be able to withstand a force of 500 Kg applied anywhere. This somewhat arbitrary force threshold is the limit of what normal individuals can apply (by jumping or kicking).

I. Drive-over Allowed weight:

The barrier must be able to handle the weight of a car that drives over it. Most cars weight less than 5500 lbs (2,500 Kg). Because the tires pass over the barrier one at a time, with a 60% front/back weight distribution as worst case, the device needs to withstand a tire weight of 1,650 lbs (750 kg).

J. Ease of assembly:

When you budget the cost of a product, the time it takes to prepare the site and then assemble and install the device should be taken into consideration. Oftentimes the unit purchase prices is not the largest cost component.

K. Ease of installation:

Can the device be glued to



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the surface? (A large mounting plate is a prerequisite for such installation, because the adhesion force increases linearly with the surface area that the adhesive is applied to.) In addition, one should never apply an adhesive directly to the barrier because this will prevent the removal of the barrier for service and repair.

- L. **Ease of maintenance:** Barriers will require a certain level of repairs, primarily because cars tend to bump into them. Make sure that the barrier can be readily removed for repairs without damaging the drivable surfaces.
- M. **Aesthetics:** The barrier should be attractive, rather than stand out as an eyesore.

4. Features of Powered Barriers

In addition to the feature list of mechanical barriers, buyers should consider the following features when deciding on powered barriers:

A. **Source of Power:**

- **Mains** powered barriers eliminate the need for batteries in the units. However, even these systems need a backup power in case of power outage. In addition, the cost of site preparation and installation is the highest of all the powered barriers.
- **Battery** powered barriers have a low installation cost and usually a low-to-medium product cost. However, these devices need continuous maintenance to replace the batteries and to recharge them. The batteries need to be recharged every 6-8 weeks. Charging takes 14 to 24 hours (faster charging damages the batteries). The common lead-acid batteries used in most of these devices require replacement after 2-3 years.
- **Battery with Solar** recharging barriers are useful in sunny outdoor applications. The battery life issue mentioned above is still limited to 2-3 years and the solar panel must be cleaned regularly from road dust and the car's dirt. If the barrier is used more than a couple of times per day, the solar charger will not maintain the batteries at full charge.
- **Car-powered** barriers: MySpot 200 is the only unitary barrier that uses the weight of the car, as it drives into the parking space, to store energy to lift the barrier after the

car left. This system has all the advantages of battery power without their disadvantage. The MS200 tends to cost more than low-end battery barriers. Note that there are standard batteries in the MySpot 200 used to power the radio; these last 2-3 years.

B. Wiring requirements: This applies to mains powered barrier and to all barriers that require wiring for the up/down control of the barrier.

C. Battery life: This is a crucial issue that translates directly into the cost of operating the barrier. In a large installation with tens of units, it takes 15 minutes per unit to open the unit, replace the battery with a fully charged one, then place the discharged battery on charge. (in a smaller installation, the time is even longer.) That means that a full-time employee can replace only 30 units per day, and that needs to be done every 6 weeks or so. The cost can be staggering, especially when not all the bays are free of cars and the technician may have to make multiple visits for some barriers.

D. Types of remote control: Most remotes use radio frequency (RF). Some use infrared (IR), but these tend to be very directional and will not work if you do not have a direct line-of-sight. They should be avoided at all costs.

E. Certification: Most countries require that the RF remotes meet certain radiation standards. The remotes must pass certification (usually CE). If remotes are imported which do not have certification, or if the local government runs tests that prove that the remotes are in violation of the standards, very substantial penalties can be levied on the importer (often more than \$100,000). Make sure that the CE mark or FCC mark is present and that the manufacturer provides you with the certificate on demand.

F. Range of Remote: The remotes should be able to control the barrier from a distance of 12 meters (36 feet) as a minimum. Note that the range will be cut by half when you transmit from inside the car.

G. HomeLink Compatibility: Luxury cars are equipped with a learning transmitter called HomeLink that can be used instead of the hand-held transmitters. It eliminates the clutter of having more fobs on your key chain or in the car. Make sure that the bar-



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rier system is compatible with HomeLink.

H. **Number of remotes useable:** How many different remotes can control each barrier? This is a critical issue when many drivers share a parking spot (for example travelling executives).

I. **Number of barriers controlled by a remote:** How many different remotes can be controlled by one remote? If a number of people share a few spaces, each remote should individually be able to control all the barriers. *On the DPC MySpot 200 system, for example, 15 people can control any one of 9 barriers.*

J. **Configuration Method:** How is the barrier "paired" with the remotes? Can you add remotes to a barrier or add barriers to a remote without having to open the barrier assembly or the remote fob?


K. **Number of remotes supplied:** We recommend a minimum 2 remotes per barrier. One for the user, another for a family member or to be kept as a master at the garage.

5. Summary

When selecting a solution to unitary parking access control consider the entire life-cycles cost, not only the front-end investment. Also consider the customer's expectations. If he or she drives a luxury car, they will not be happy with a manual unit.


Designated Parking Corp manufactures a line of unitary parking barriers. The **MySpot 200** is a remote-controlled device that uses the car weight as it power source. The **MySpot 120** is a manual barrier that can survive repeated bumping. The **MySpot 30** is a rugged manual barrier that is lowered and raised using the foot.


DPC is a US company with 2 affiliated manufacturing plants in China.




MYSPOT™:
The World's Most Popular Parking Space Barriers


World-wide, unauthorized use of individual parking spaces is prevented by MySpot™ barriers. This is the place to start when you want to save spaces and soothe tempers.

 **MySpot™ 200** — A highly effective barrier is controlled from vehicles by a hand-held transmitter. It is surface mounted, requiring no wiring because it is powered by a vehicle's weight. Its rugged design resists forced entry attempts.

 **MySpot™ 120** — Locked by an authorized user into its upright position, this low-cost, key-operated bollard keeps intruders out. Easily installed, it yields to impact, then springs upright again. Lies flat when unlocked.

 **NEW MySpot™ 30** — Appearance alone makes the MySpot™ 30 an imposing deterrent. When unlocked by an authorized user, this rugged, horseshoe-shaped barrier folds to the ground with light foot pressure, locking into place. Light pressure on a pedal activates the unit, which rises under its own power to the vertical locked position.

Contact us today for additional information and prices. MySpot™. The choice for secure protection.



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